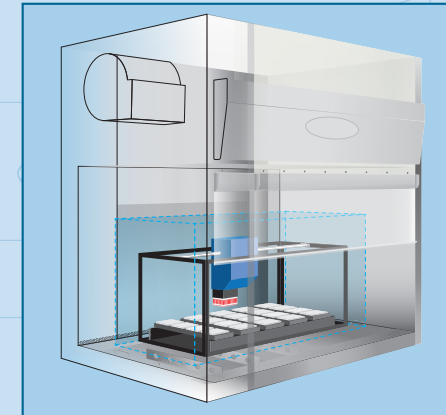
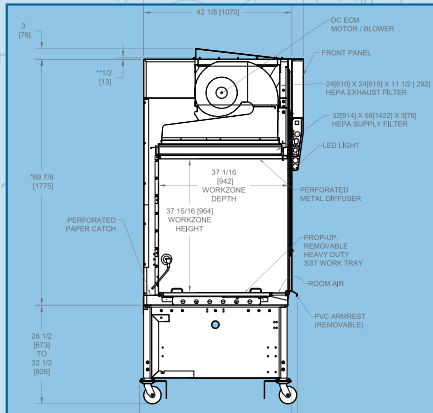


INNOVATION

DOES NOT HAVE STANDARD DIMENSIONS



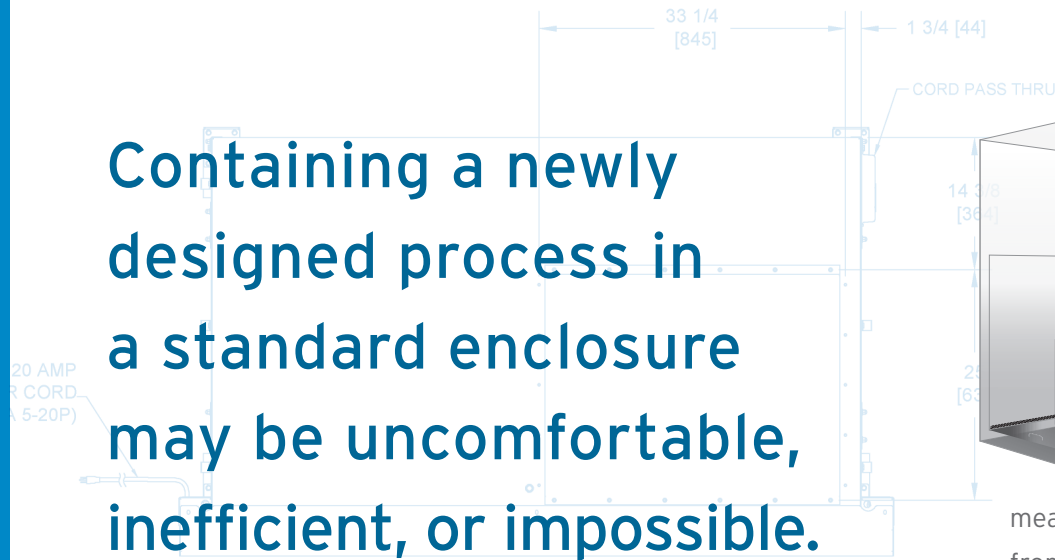
CUSTOM CONTAINMENT
AND CLEAN AIRFLOW SOLUTIONS



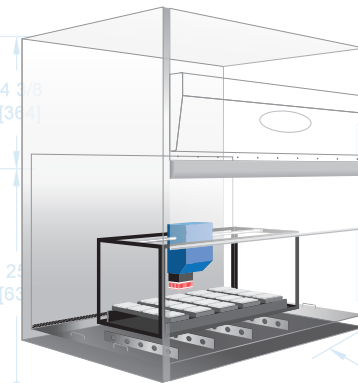
PURPOSE

WHY IS CUSTOMIZED EQUIPMENT NEEDED?

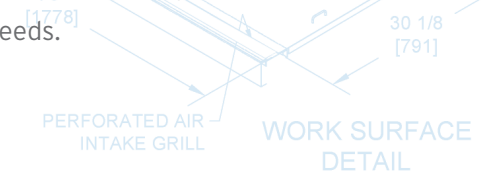
E MADE FROM 316 SST



Containing a newly designed process in a standard enclosure may be uncomfortable, inefficient, or impossible.



Laboratories develop manual or automated workflows that are the most effective way to achieve their goals. But, labs often find that performing the most effective process inside a traditional enclosure is uncomfortable, inefficient, or even impossible. No design can be engineered for every potential application and workflow. This means that labs may benefit by acquiring tailor-made enclosures from NuAire to better fit their needs.



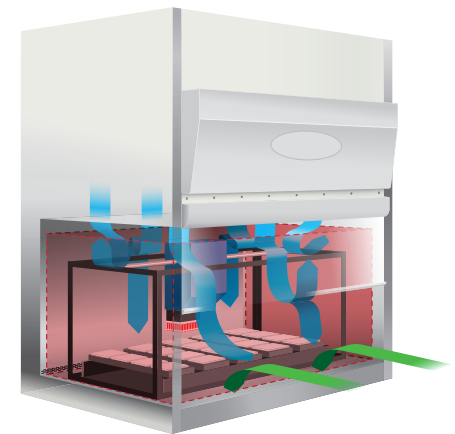
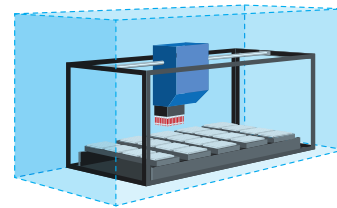


PROTECTION DOES NOT HAVE STANDARD DIMENSIONS

AUTOMATED PROCESSES MAY NOT FIT OR BE PROTECTED IN A STANDARD CABINET

Automated equipment can be any size. The same should be true for clean air containment enclosures.

Some workflows center around technicians performing specific manual procedures. Others rely on the use of a large, automated, instrument. A traditional cabinet may not provide enough room to enclose the instrument, ensure proper airflow around it, be able to support its weight on the work surface, provide it with enough electrical power, or allow sufficient data connections to it.

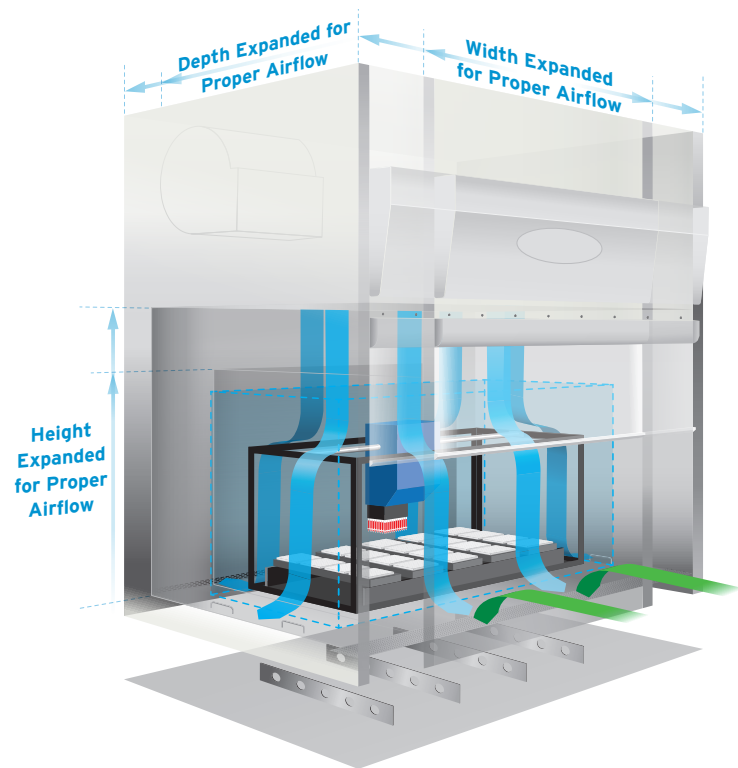


Custom Features for Automated Devices

Wider and deeper work areas than necessary for manual procedures to aid in the safe and effective operation of automated equipment. Supports under the work surface allow for installation of heavy equipment.

CUSTOM CABINETS FOR AUTOMATED EQUIPMENT

CUSTOMIZED CABINETS MEET THE SIZE AND SUPPORT NEEDS OF INSTRUMENTS



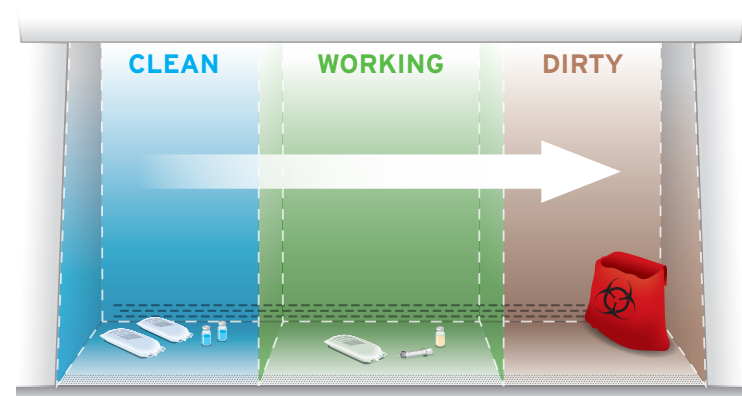
HUMANS WERE NOT MADE TO WORK INSIDE A BOX

SOME MANUAL PROCESSES CAN BE CUMBERSOME IN STANDARD CABINETS

A biosafety cabinet should be a tool, not an obstacle, for users performing the optimal procedure.

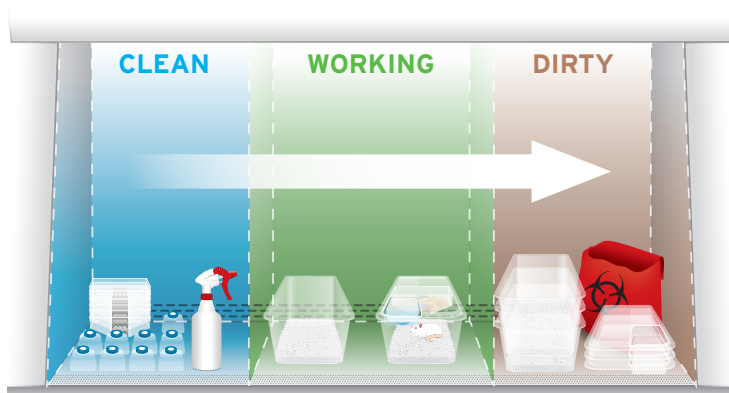
Airflow equipment can make manual processes awkward if the operator must work around aspects of the design to perform the procedure. For example, a cabinet design may not be conducive to easily moving items through the work access opening, efficiently containing those materials within a limited space, comfortably maneuvering them within the work zone,

safely managing waste items, or even disinfecting the work zone itself. Laboratory technicians performing complex processes need enclosures that work with them rather than against them, and that means making the workflow shape the cabinet design itself.



CABINETS CAN BE BUILT TO BETTER FIT USERS

CUSTOMIZED CABINETS MAKE WORKFLOWS COMFORTABLE AND EFFICIENT



Custom Features for Manual Procedures

A standard BSC has limited space for waste. NuAire created an enclosure with a pass-through that allows waste to be placed into a collection bag outside the cabinet for disposal.



Scan to Request a Custom Design

Tell us about the manual or automated process you want to enclose.

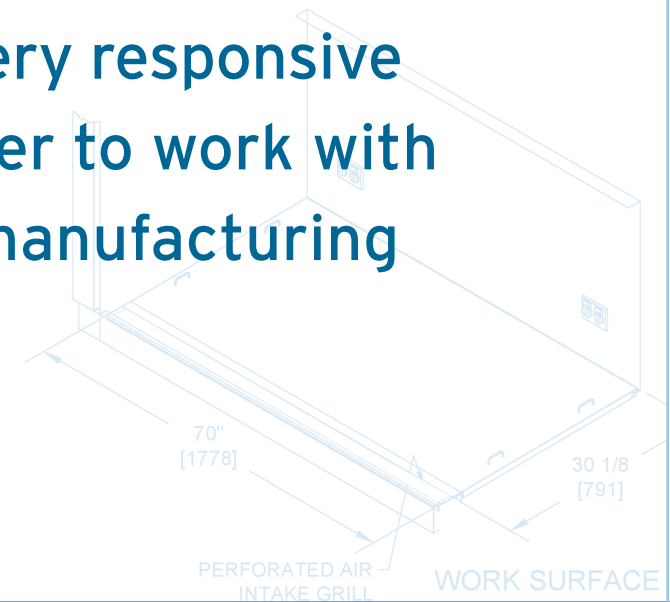
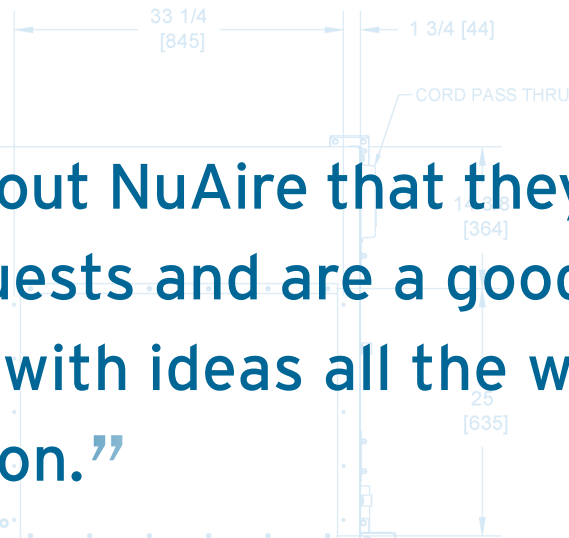
PROCESS

HOW NUAIRE WORKS WITH CUSTOMERS

“I can say about NuAire that they are very responsive to R&D requests and are a good partner to work with to come up with ideas all the way to manufacturing and validation.”

- BOAZ SLAV, R&D MANAGER, EQUASHIELD®

3ST





THE CUSTOMIZATION PROCESS IS CLEAR & TRANSPARENT

THE NUAIRE TEAM COOPERATES WITH CUSTOMERS TO DESIGN THE CABINET

1

Consultation

The customer explains their application, process, and what features the cabinet or enclosure must include.

2

Design & Engineering

Next, NuAire engineers a custom design for the client and provides a drawing for approval if appropriate.

NuAire is the Ideal Custom Product Partner

Customers have requested specialized enclosures from NuAire for many years. NuAire has always embraced the chance to customize products to fit any process our customers create. What is it that makes NuAire especially qualified and sought after for these challenges? NuAire has been building a legacy as a preferred biosafety cabinet manufacturer ever since it built one of the first modern biosafety cabinets to fulfill an NIH specification in 1973. This expertise makes NuAire the best partner to empower labs with tailor-made containment.



Scan to Learn About the Process

Read a white paper about key aspects of working with a customization partner.



THE RESULTING ENCLOSURE IS APPLICATION DRIVEN

EVERY DETAIL CAN BE BUILT TO CLIENT SPECIFICATIONS FOR THEIR WORKFLOW

3

Manufacturing & Testing

Then, NuAire manufactures the accepted design and conducts any agreed upon performance testing.

4

Delivery & Installation

NuAire ensures the assembled or modular design is installed at the customer's location.



9

APPLICATIONS

WHERE DOES CUSTOMIZATION CREATE AN IMPACT?

NuAire offers customers the opportunity to choose engineering controls which are customized for their process, rather than having to compromise their process in order to fit an existing cabinet.



CUSTOM CABINETS FOR AUTOMATION EQUIPMENT

BESPOKE BIOSAFETY CABINETS MADE TO FIT A SPECIFIC DEVICE



Laboratories that use automated instruments may find that enclosing them in standard airflow equipment leads to several potential problems: the work zone isn't physically large enough to house the instrument or is physically large enough but blocks proper airflow, the work surface cannot support the weight of the instrument, or the sidewalls don't allow power and data cables through. These problems are resolved by a cabinet specifically built for the instrument's size, weight, installation requirements and airflow protection needed.



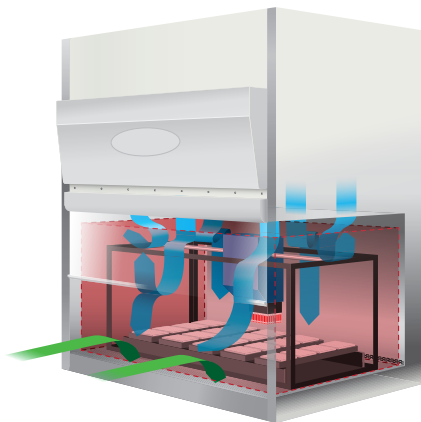
Scan to Read an Example of Successful Customization
Read about a pharma company that worked with us to contain automation equipment.

DISCOVER WHY A CUSTOM ENCLOSURE IS NEEDED

LARGE AUTOMATED INSTRUMENTS DON'T FIT IN STANDARD AIRFLOW EQUIPMENT

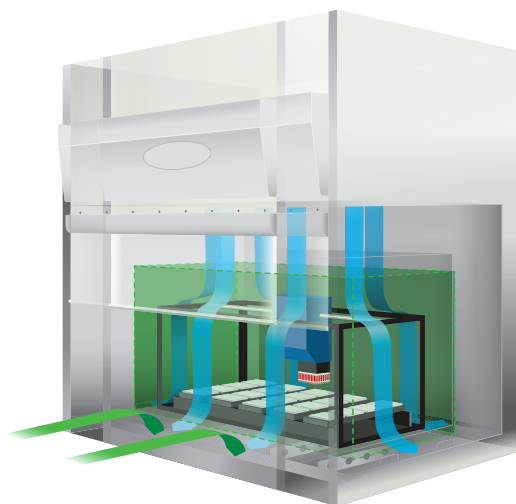
Prevent Invisible Hazards

A standard cabinet can be ineffective even if it is physically large enough to contain lab automation equipment. Turbulent airflow inside an undersized work zone can compromise protection and cabinet function.



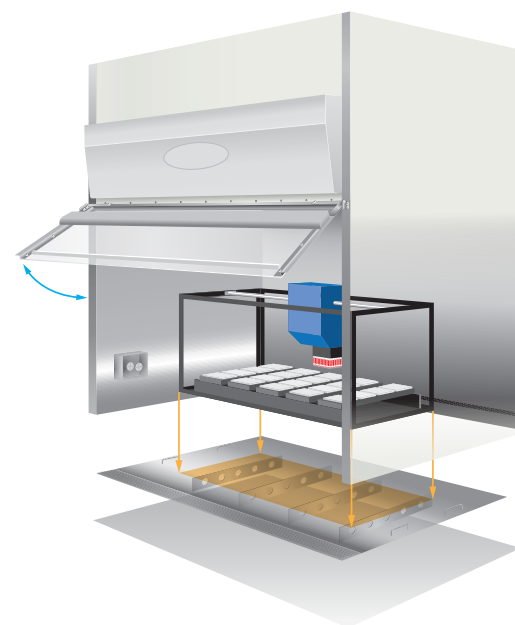
Oversize for Safety

A cabinet purpose-built for lab automation, however, not only provides sufficient space around equipment to allow proper air movement but also enables superior mechanical integration.



Facilitate Installation

In addition to an oversized work zone, a custom enclosure can also include a hinged window, cord pass-throughs, and a reinforced work surface.



CUSTOM CABINETS FOR LARGE ROBOTIC SYSTEMS

OVERSIZED CABINETS DESIGNED TO ENCLOSE LARGE INSTRUMENTS



Some robotic systems require an enclosure so large that a traditional biosafety cabinet is not an option. NuAire designs biosafety cabinets that are the size of small rooms with doors that allow large robotic systems to be rolled in on wheeled tables. Once that system is inside and the doors are closed, the room then functions as a true airflow enclosure with inflow entering through the windows on the front doors and HEPA-filtered downflow air flowing from the ceiling.



Scan to Watch the Customization Process in Action
Watch a short, fun video about what it would be like to
work with us

HOW IS THE CABINET SUITED FOR LARGE SYSTEMS?

ROOM-SIZED CONTAINMENT AND ROLL-IN DEVICE INSTALLATION

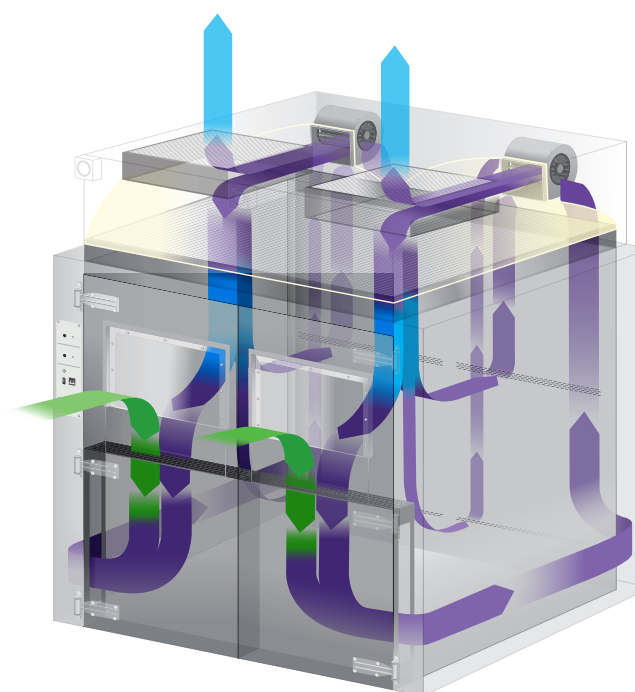
Large Front Doors / Table with Casters

Oversize front doors allow large robotic systems to be rolled in or out on a stainless steel table with casters.



Provide Airflow Protection

The closed cabinet functions as a Class II cabinet with inflow and filtered downflow and exhaust.



■ Clean HEPA-Filtered Air
 ■ Room Air Inflow
 ■ Contaminated Air

The closed cabinet functions as a Class II cabinet with inflow and filtered downflow and exhaust.

CUSTOM CABINETS FOR DRUG DISCOVERY RESEARCH

IDEAL BIOSAFETY CABINETS FOR PHARMACEUTICAL RESEARCH AND DEVELOPMENT



Pharmaceutical companies may demand more cleanability and performance monitoring than classic cabinets provide. A customized cabinet for pharmaceutical research and development can be built with not only an all-stainless-steel body but also a mount on the inside to support a particle counter for continuous monitoring of work zone air quality. Customization provides the greatest peace of mind by building the specifications the customer defines.

All Stainless-Steel Body

While standard biosafety cabinets may combine both stainless steel and painted steel components, the entire main body can be custom-made of stainless steel for better cleanability.

HOW CAN WE OPTIMIZE THE CABINET FOR R&D OR GMP?

CREATE A DESIGN FOR CLEANABILITY AND WORK ZONE AIR QUALITY MONITORING



Custom Extra Large Interior

Laboratories that intend to use larger automated instruments may also require an expanded work zone that allows not only enough physical space for the device but clearance for airflows.



Probe Holder

A probe holder in the work zone enables laboratories to install isokinetic probes or particle counters to constantly monitor air cleanliness in the work zone.



Cord Pass-Through

Cord pass-throughs allow for instruments in the work zone to be connected to additional power or data.



Scan to Request a Custom Design

Tell us what would make a biosafety cabinet perfect for *your* drug research.

CUSTOM CABINETS FOR PHARMACY COMPOUNDING

BIOSAFETY CABINETS MADE FOR USP 797/800 DRUG PREPARATION

Healthcare pharmacies compounding drugs may find traditional biosafety cabinets to be a poor fit. A containment primary engineering control customized for pharmacy, however, could be tailor-made with a camera mount, a monitor cutout in the back wall, an expanded work zone, and a cleanable, all-stainless-steel front panel.



Scan to Request a Custom Design

Tell us what would make a biosafety cabinet perfect for *your* medication workflow.



HOW CAN WE OPTIMIZE THE C-PEC FOR WORK WITH CSPs?

MAKE ENGINEERING CONTROLS THAT EMPOWER CLEANABILITY AND CONTROL

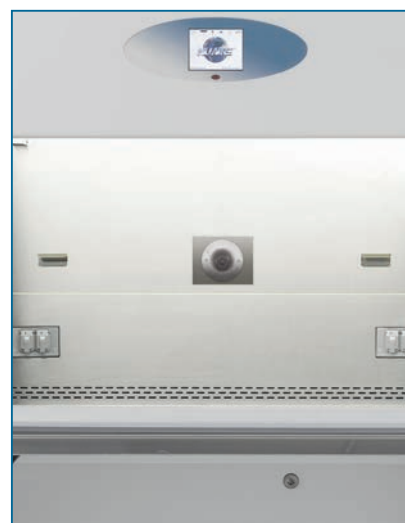
Stainless Steel Exterior Panel

The powder-coated carbon steel front panel can be replaced with stainless steel for better cleanability in your pharmacy.



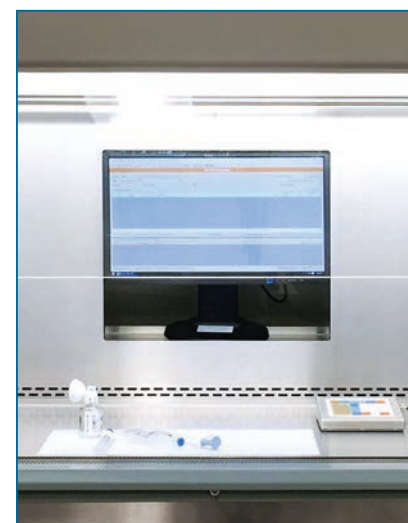
Integrate a Camera

A custom camera mount allows healthcare pharmacies to record all activity inside the cabinet for documentation.



Integrate a Monitor

A monitor installed in the backwall allows the technician to view compounding software while performing their work.



CUSTOM CABINETS FOR AUTOMATED COMPOUNDING

BIOSAFETY CABINETS OPTIMIZED FOR AUTOMATED DRUG COMPOUNDING

“We (EQUASHIELD) couldn't find any other such partner that can be that responsive to R&D while the BSCs market is very traditional and less suitable for changes.”

- BOAZ SLAV, R&D MANAGER, EQUASHIELD®



Scan to Request a Custom Design

Tell us what *your* automated compounding system requires for installation



HOW CAN NUAIRE OPTIMIZE A C-PEC FOR AUTOMATION?

DESIGN A C-PEC TO INSTALL, CONNECT, AND CLEAN AROUND A DEVICE



EQUASHIELD®
Compounding Technologies



EQUASHIELD®, a manufacturer of automated solutions to protect healthcare workers from hazardous drug exposure, asked NuAire to develop a custom enclosure for their product, the Mundus® Mini HD. This enclosure required features such as a stainless steel exterior and a segmented work surface to allow for cleaning under the work surface without removing the Mundus® Mini HD.

Accommodating External Components

EQUASHIELD's product required the support of components which could not be placed in the work area. NuAire created a large cord pass-through to allow for a data cable connection with the automated unit inside the NuAire enclosure.

CUSTOM CABINETS FOR SMALL ANIMAL RESEARCH

BSCs WITH WORK ZONES OPTIMIZED FOR VIVARIUM WORKFLOWS

Vivariums have specific needs, a standard BSC is not always the right solution for their processes.

Vivariums that use traditional biosafety cabinets for cage changing or animal procedures may find it difficult to work efficiently. Technicians may need to constantly gather more cages and feed due to the limited space in the work zone or change cages in one piece of equipment but dump them in another. These problems are solved in a cabinet work zone designed for ready access to the cages, feed, or waste disposal the workflow requires.



HOW CAN WE OPTIMIZE THE BSC FOR CAGE WORK?

DESIGN THE WORK ZONE TO EQUIP EACH STEP OF THE WORKFLOW



Deep Wells

Using a deep well to stack cages improves efficiency and enhances safety. Fewer restocking motions and a lower stack height help protect the cabinet airflow.



Feed Hoppers

The ability to obtain more feed from within the work zone from the hoppers located outside the sidewalls similarly reduces the use of work zone space and restocking.



Waste Chute

Dumping cages from within the work zone allows one to expand the scope of their workflow within the cabinet to contain more steps of the cage changing process.

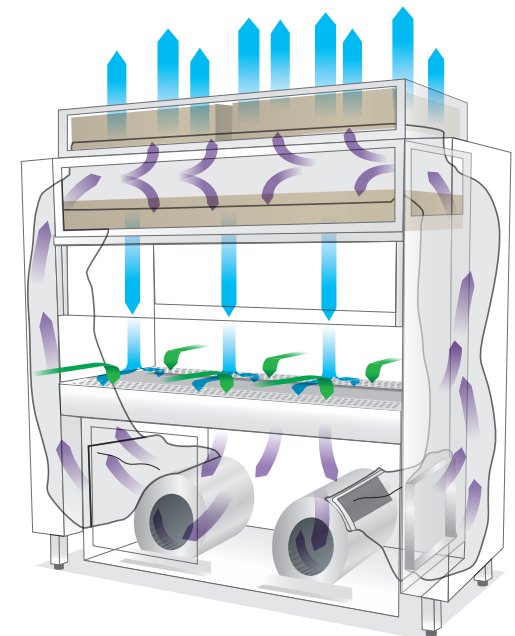
CUSTOM PASS-THROUGHS FOR VIVARIUM FACILITIES

PASS-THROUGHS INSTALLED IN THE WALLS OF A RESEARCH FACILITY



Animal research facilities may require the ability to safely pass small animals from one space into another. A custom pass-through can be built to a customer-specified size and installed into a wall to provide Class II airflow during the transfer and even be configured with a canopy to connect it to an external exhaust if needed. Customizable pass-throughs can be the right solution when fitting into existing or newly constructed vivarium facilities.

- Clean HEPA-Filtered Air
- Room Air Inflow
- Contaminated Air



HOW CAN WE OPTIMIZE THE PASS-THROUGH FOR A LAB?

SIZE THE PASS-THROUGH FOR THE NEEDS OF A SPECIFIC VIVARIUM



Custom Sized for the Facility

The pass-through can be sized to fit the vivarium's structure and workflow.

CUSTOM TRANSFER STATIONS FOR CAGE CHANGING

OPTIMIZE THE TRANSFER STATION FOR A SPECIFIC CAGE SYSTEM BRAND

The NuAire Innovive® Edition
ATS merges NuAire's clean
air innovation with Innovive's
sustainable cage technology.

Innovive® has engineered a unique
disposable caging system that
streamlines small animal transfers



INNOCAGE®



AQUAVIVE MOUSE

through a defined, efficient workflow designed to ensure consistency,
measurable cage change process improvement, and ease of cage
change compliance.

Optimizing this workflow means holding every piece of material exactly
where it needs to be in the work zone for the technician to reach it at the
right time. NuAire tailor-made a special edition of its animal transfer station
that achieves exactly that through a work zone that holds cages, feed
hoppers, and bottles for easy access without clutter.

NOTE: Animal Transfer Stations are not biosafety cabinets and should not be used for
biohazardous workflows.



HOW DO WE FIT EQUIPMENT TO A BRANDED WORKFLOW?

MATCH THE UNIT TO A PARTNER'S PROCESS, RIGHT DOWN TO THE COLOR SCHEME



innoVIVE[®] EDITION Animal Transfer Station

For some clients, NuAire's custom products meet a one-time, special need. For others, the outcome is a repeatable design that can be built over and over again to satisfy a recurring requirement to protect an automated or manual workflow every time it is employed. This is where the investment in customization yields the highest return. Not only does the upfront design process apply to more units, but those units now get the best of both worlds: the fit of a tailor-made design but the greater efficiency of a premade configuration. Just to top it off, NuAire can even customize the equipment by co-branding it with your colors and logo.

CREATE YOUR OWN APPLICATION-DRIVEN DESIGN

CONTACT US TO ENGINEER YOUR BESPOKE EQUIPMENT SOLUTION

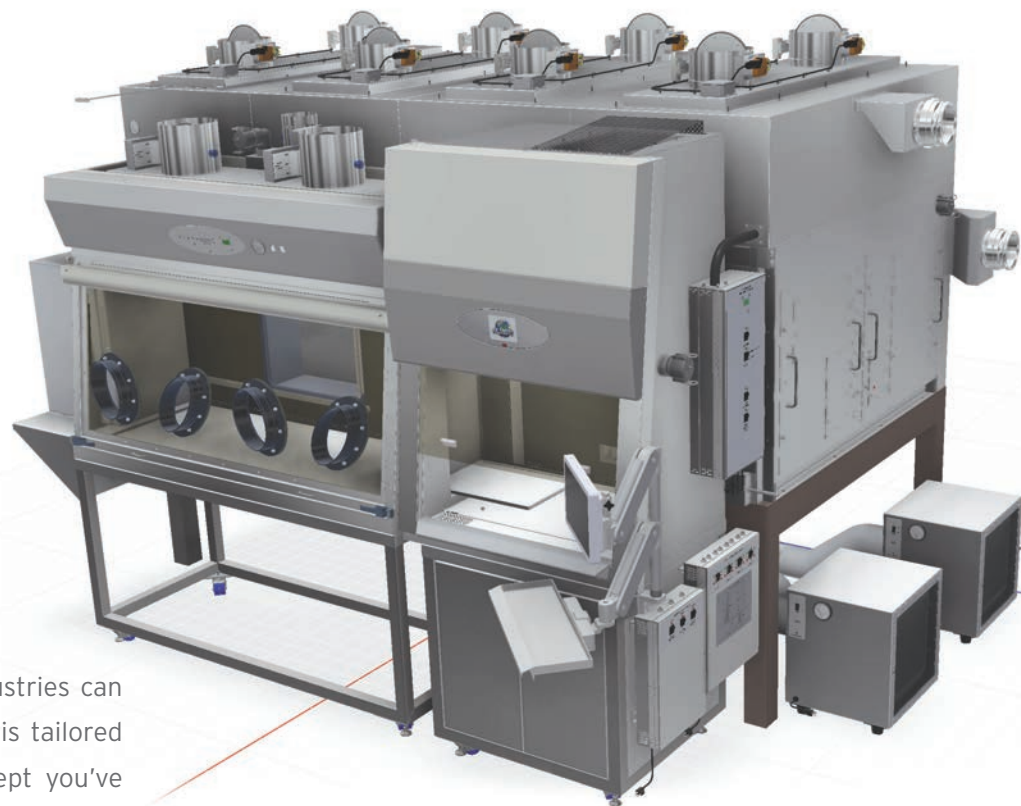
If you're ready to go back to the drawing board for your ideal equipment, we'll meet you there.

Custom designs allow customers to avoid the inefficiency, discomfort, and safety concerns that may arise from forcing a process into an incompatible airflow product, whether the needed change is a minor tweak or a large-scale solution.





As shown in the preceding pages, clients across many industries can partner with NuAire to obtain a cabinet or enclosure that is tailored from the very beginning to fit their workflow. Each concept you've seen is an example of how we can change the experience of choosing equipment from one in which the customer simply accepts what they are offered to one in which they determine what they need and are given their own solution. Imagine what your own solution might be, contact us, and let's get to the drawing board!



Scan to Request a Custom Design
Tell us how you would like us to tailor *your*
airflow equipment

20 AMP
CABINET POWER CORD
(NEMA 5-20P)

25
[635]

*45 3/8
[1153]

42 1/8 [1070]

INNOVATION

DOES NOT HAVE STANDARD DIMENSIONS

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[1972]

ACC. OUTLET

PROTECTIVE GR

ABOUT NUAIRE

Since 1971, NuAire has been committed to bringing the highest-quality, most dependable laboratory products to the market. We are universally recognized as one of the world's leading providers of reliable equipment for the most demanding environments.

INTERNAL BAL
DAMPER ADJ

CONTROL PAN
OLED DISPLAY
FLOWARD O
INTELLI FLOW
LIGHT SW
BLOWER SW
SYSTEM DIAG

SLIDING WIND
(TEMPERED O

CUSTOM CONTAINMENT AND CLEAN AIRFLOW SOLUTIONS



NuAire, Inc. | [NUAIRE.COM](https://www.nuaire.com)

DUPLEX O
W/ GFI (2)

10
[254]
OPENING

PARTICLE CO
PROBE
CABLE MANAG
BRACKETS
DRAIN VALVE

NU-S500-111
BASE STAND
W/ CASTORS
TO SCOPING